



Atty. Docket No. 201-0309 (FOR25 P347)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Art Unit : 3611
Examiner : K. Hurley
Applicants : Aaron L. Mills et al.
Appln. No. : 09/683,703
Filing Date : February 5, 2002
Confirmation No. : 6453
For : STEER-BY-WIRE STEERING SYSTEM WITH ROTATION LIMITER

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APPELLANT'S REPLY BRIEF (37 CFR §1.193)

As an initial matter, Applicants submit that Hanger, Jr. 1,083,399 cannot possibly anticipate or render obvious independent claims 1 and 9, because Hanger, Jr. '399 does not disclose an actuator. Independent claim 1 recites "an actuator for rotating one or more wheels," and independent claim 9 recites "an actuator for actuating one or more steerable members". Paragraph [0004] of the present application states that,

the pinion shaft 30 is rotary driven by an actuator in the form of an electric drive motor 26 in response to a motor control output signal received from a steering controller 24. Accordingly, the pinion shaft 30 is rotary actuated in response to the control output signal generated by the steering controller 24, instead of employing a direct mechanical linkage between the steering wheel shaft 16 and pinion shaft 30. (Emphasis added).

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In contrast, the arm 11a of Hanger, Jr. '399 is a mechanical link that is connected to the mechanism for steering the wheels (not shown). Column 2, lines 93-95. Thus, Hanger, Jr. '399 does not in any way disclose or suggest an actuator of a steer-by-wire steering system as recited in independent claims 1 and 9.

Applicants further note that independent claims 1 and 9 recite a "steer-by-wire steering system", and independent claim 16 recites a "steering assembly for a steer-by-wire steering system". Hanger, Jr. '399 clearly does not disclose or suggest a steer-by-wire steering system.

Also, claim 1 recites that "the steering input shaft is not mechanically linked to the steered one or more road wheels". Similarly, independent claim 9 recites that "the steering input shaft is not mechanically linked to the steered one or more steerable members", and claim 16 recites that "the steering input shaft is not mechanically linked to the steered one or more road wheels". If Hanger, Jr. '399 were disassembled, it would merely constitute individual components, not a steer-by-wire steering system. Hanger, Jr. '399 would be non-functional when in the disassembled state, such that this reference in no way teaches or suggests modification to make it non-functional.

Applicants appreciate that some of the limitations in the pending claims are somewhat functional in nature. However, "a functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used." MPEP 2173.05(g). Applicants submit that one skilled in the art would recognize that the "stop position" of independent claims 1, 9 and 16 claims recites a feature that is not present in Hanger, Jr. 1,083,399.

Applicants further note that "[i]n order to render a claimed apparatus or method obvious, the prior art must enable one skilled in the art to make and use the apparatus or method." *Motorola, Inc. v. Interdigital Technology Corp.*, 43 USPQ 2d 1481, 1489 (Fed. Cir. 1997) (emphasis added) (quoting *Beckman Instruments, Inc. v. LKB Produkter AB*, 13 USPQ 2d 1301, 1304 (Fed. Cir. 1989)). Applicants submit that Hanger, Jr. '399 does not enable one skilled in the art to make and use a steer-by-wire steering system without a mechanical link as recited in the pending claims.

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Claims 2, 3, 5 and 6 depend from claim 1, and are therefore allowable for those reasons set forth above with respect to claim 1. Claims 10-12, 14 and 15 depend from claim 9, such that these claims are believed to be allowable for those reasons set forth above with respect to independent claim 9. Claims 17, 18 and 20 depend from claim 16, and are therefore believed to be allowable for those reasons set forth above with respect to claim 16.

In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art. *In re Fritch*, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992). Applicants respectfully assert that the Examiner has not yet met his burden of establishing a prima facie case of obviousness with respect to the rejected claims. Consequently, the Examiner's rejection of the subject claims is inappropriate, and should be overturned.

Respectfully submitted,
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